

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

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Weekly Bulletin



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Entered as second-class matter February 21, 1922, at the post office at Sacramento, California, under the Act of August 24, 1912. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917.

Vol. XI, No. 15

May 14, 1932

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EDITOR

*The Rehabilitation of the Deafened**

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Loss of the special sense of hearing is a physical defect which is present in many, if not all, of our people. It occurs in individuals of all ages and both sexes. Race, color, social or economic condition appear to play no part.

Deafness, no matter how slight, is a mountain some can not climb. Few learn to accept the handicap gracefully. In fact practically everyone who acquires deafness goes through "Hell" mentally, physically and unfortunately in most instances, economically. If any of us should try going about with our ears stuffed with cotton, shutting out all pleasant sound, we would better appreciate the hardships of the deafened and the tragic plight of the person, child or adult, who has lost, or is losing, his hearing.

As early as 1881 Von Toelich, a careful observer and statistician, said, "One in three persons over twenty years of age has subnormal hearing in one or both ears." Donker, in his most recent textbook, makes the startling statement that 25 per cent of school children examined had less than one third normal hearing acuity for the whispered voice. Newhart says his survey in Minneapolis schools show appreciable impairment in 30 to 50 per cent of children tested, according to age groups. The total number of deafened persons in the United States is now accurately determined to be about ten million. Of that number over three million are of school age. They are about eight to ten per cent of our school population. It is from this school group that much of our knowl-

edge concerning the incidence of deafness has been obtained. The standardized examinations of men, preparatory to their entry into service for the World War, and the testing of hearing of large groups of children in the public schools, have given us our most dependable data.

What has been needed for a long time has been a practical instrument which will accurately and quickly measure the hearing of large numbers of persons. At last such a mechanism has been perfected by the Western Electric Company, which has developed the number 4-A phono-audiometer. This portable and sufficiently simple electric audiometer, with multiple ear attachments, can be accurately operated by any well trained school physician, nurse or teacher, so that the hearing of twenty-five at a time (if their intelligence be that of a normal child of seven years), can be recorded in less than that number of minutes. The average cost of the test is estimated to be ten to twelve cents per pupil. The initial cost of the instrument is considerable, but not more than any city or county school system can well afford.

In California the city schools of Los Angeles, Long Beach, San Francisco, Fresno, San Diego, Santa Barbara, Stockton, San Joaquin Valley and Los Angeles County have and are using the 4-A phono-audiometer.

Many school systems in the United States have

* Part of an address delivered at a Conference on the Handicapped in connection with annual meeting of the California Conference of Social Work, Riverside, California, May 4, 1932.

undertaken a study of the cost to the taxpayer of imperfect hearing due to retardation of their school population. In the city of Rochester, New York, an examination of the records of 349 deafened retarded children showed that this group had repeated grades 441 times. A few of these children had repeated their grades as often as five or six times. The control used was 349 normally hearing children in the same school who had repeated grades but 130 times. It was thus determined by computation that 211 children, whose class-repeating work was traceable to deafness, had cost that city the sum of \$26,460 or an average of \$125 plus per pupil.

We may be very certain, therefore, that in any large school system a huge sum is wasted on those deafened repeaters. A considerable amount of money in any school system may, therefore, be wisely spent in the detection of deafness in its early and most preventable or curable stages. It should also be remembered that those retarded children become careless and discouraged and leave school at the first opportunity. A large majority of them have good minds, but ultimately find themselves in the unskilled labor class, due chiefly to want of education. We must realize that about 90 per cent of the vast army of our adult deafened in childhood or later were incipient cases and were curable. The cost in dependency, loss of efficiency, and unnecessary mental and physical suffering is simply appalling.

With the cooperation of the membership of the American Otological Societies and many otologists in Europe, and with funds from interested laymen, an intensive research program is being launched to investigate the causes of deafness, particularly the causes of otosclerosis. John Hopkins, Columbia, and Northwestern universities are cooperating and have offered laboratory facilities to carry on particular phases of this research work. Deafened persons throughout the world are invited to cooperate by devising in their wills, to a deafness research foundation, the gift of their temporal bones, with a carefully made history of each case. The Carnegie Foundation has made available \$90,000 to start this research work. Two and a half million dollars of the endowment fund is hoped for in gifts within five years, and an ultimate \$10,000,000 endowment, it is expected, will be provided. Thus a long delayed and greatly worthwhile undertaking has been launched. The fact that so little systematic research work in this field has been undertaken up to the present time lends hope to the thought that by these efforts the causes of so-called incurable deafness may be found and valuable light thrown upon its prevention and cure.

Whereas, otosclerosis and other incurable ear conditions are now receiving this splendid study, these represent less than ten per cent of the deafness in the world. The remaining 90 per cent, the cause of which is known and which is practically all preventable, receive scant attention and generally greatly delayed treatment. This neglect, I believe, is primarily due to lack of public education, rather than to medical inefficiency or neglect.

Deafness is primarily a public health problem and belongs to modern Social Hygiene and Preventive Medicine. We spend millions annually for cures; we are spending more millions upon the handicapped, upon the under-privileged and unfit, but we fall far short in this preventive work. What an indictment of our modern social, medical and economic system. It is the problem of social workers and the medical profession to bring this message to all the people and to secure their intelligent cooperation. To every doctor, social and public health worker, it does not mean working himself out of a job, but it does mean his carrying public health education to all the people. This, to me, is his greatest possible service and duty. To millions of the hard of hearing to be, it means their rescue from a life of unending misery and often abject poverty and want. It means the supplying of adequate facilities, for every person in the United States, whereby he may obtain dependable medical care when ill. (This should be required by law.)

Diagnostic ear clinics should be established in every large community where accurate examinations may be had by the needy at public expense. For the school and pre-school child these clinics should be in the school building, where opportunity for hearing tests should be conducted by competent teachers, or public health nurses. In cities, where a school health service is maintained the Ear Diagnostic Clinic should be under the supervision of the school physician. Each large school system should be equipped with a 4-A phono-audiometer and rural and smaller cities should be served by county or township equipment.

No otological treatment service should be maintained or permitted at these school clinics. It is the prerogative of our public and private physicians and hospital clinics to maintain such service for the care of the indigent. Such service should be provided, by hospitals, for County and City Welfare departments at cost, and competent medical service provided free, or more equitably, for a moderate charge, paid by public taxation to the doctor through the clinic, on the basis of volume and character of services rendered.

SUMMARY

1. Deafness classified as anacusia, totally deaf and hypacusia or hard of hearing.
2. Incurables, 10 per cent or less. Preventable or curable, 90 per cent or more.
3. Incidence of deafness, in U. S.—10,000,000, of which over 3,000,000 are of school and pre-school age, of whom 25 to 50 per cent are definitely handicapped for life. Deafness is increasing.
4. Prevention and cure. School and health centers diagnostic clinics. Public and private medical and surgical service in hospitals and private otologists, all financially supported by public and private funds.
5. Rehabilitation for the permanently deafened. Early acquiring of art of lip-reading, taught in day and night schools. No one too old to learn. Establishment of league for the hard of hearing.
6. Equipment. All schools equipped with a 4-A phono-audiometer.
7. Examinations, annual or semiannual testing of hearing of all adults, school or pre-school children. A huge economic saving to taxpayers.
8. Safety hazards. Deafness causes 12 per cent of automobile accidents. Added safeguards needed.
9. Noise is a prolific source of deafness.
10. Popular education. Early recognition of deafness and re-education of the deaf. We should eliminate 95 per cent of deafness in the world. At present rate of increase there will be no normally-hearing persons.

THE SENSE OF HEARING

Defects of hearing are far more prevalent than is generally supposed. These defects vary in type and degree. Experts state that approximately 15 per cent of the children in school have defective hearing in one or both ears, more serious defects occurring in about 3 per cent of the cases. They affirm, also, that no field of hygiene is so neglected as that of hearing.

Small children do not complain that they hear poorly. Parents and teachers are often unaware of such defects; therefore, systematic methods of testing the hearing of all children is urgent. Suspicious signs, such as earache, purulent discharge from the ear, constantly asking "what," talking loudly or in a hollow monotonous tone, a blank look, slowness of response to requests given in a normal tone, or turning one ear toward the speaker, indicate difficulty to hear normally.

From a study of hearing tests of school children, 710 in Washington D. C., and 1150 in Hagerstown, Maryland, made by the United States Public Health

Service, we quote the following: "Among the children doing the poorest school work in the youngest and oldest groups there was the largest amount of significant hearing loss. The highest percentage of children with significant hearing loss was found in the group with the lowest intelligence quotient." * * * "One feels justified in assuming that children with defective hearing are at least handicapped in their school work. No one would, of course, assume that defective hearing affects 'native' intelligence, but a failure to hear clearly the oral presentations of a mental test might easily affect the intelligence quotient."

The course of an ear defect may be progressive until total deafness results. Auditory defects may be situated in the external, middle, or internal ear, and may be due to hardened wax, the lodgement of a foreign body, frequent or severe colds, infectious diseases, or injuries. Among general causes might be mentioned adenoids, defective tonsils, acute febrile diseases, blows on the head, putting foreign bodies into the ear.

Immediately upon discovery of any minor or major defect of the hearing, a physician should be consulted for proper diagnosis and treatment. Many times the condition responds readily to the treatment; in other cases further guidance in vocational training is indicated. By all means the advice of a competent diagnostician should be followed in order to avoid future complications and attendant handicaps.

Being arrived at seventy, and considering that by traveling further in the same road I should probably be led to the grave, I stopped short, turned about and walked back again; which done these four years, you may now call me sixty-six.—Benjamin Franklin.

MORBIDITY*

Diphtheria.

67 cases of diphtheria have been reported, as follows: Los Angeles County 9, Glendale 1, Inglewood 1, Los Angeles 45, Sierra Madre 1, Fullerton 1, Riverside 3, Sacramento 1, Upland 1, San Diego 1, San Francisco 3.

Scarlet Fever.

162 cases of scarlet fever have been reported, as follows: Alameda County 2, Alameda 6, Berkeley 1, Livermore 1, Oakland 5, Contra Costa County 1, Martinez 1, Fresno County 4, Fresno 1, Kern County 1, Los Angeles County 12, Alhambra 2, Compton 3, Huntington Park 1, Long Beach 3, Los Angeles 55, Manhattan 1, Pasadena 6, Pomona 3, Santa Monica 2, Sierra Madre 6, Southgate 6, Gardena 2, Monterey County 1, Orange County 9, Brea 1, Orange 1, Santa Ana 1, Riverside County 1, Sacramento 1, Upland 2, San Diego 1, San Francisco 9, San Joaquin County 1, San Luis Obispo County 1, Redwood City 1, Santa Barbara County 3, Ceres 1, Ventura County 3.

* From reports received on May 9th and 10th for week ending May 7th.

Smallpox.

21 cases of smallpox have been reported, as follows: Hanford 1, Los Angeles 8, Torrance 2, Hawthorne 6, San Francisco 2, San Jose 2.

Typhoid Fever.

6 cases of typhoid fever have been reported, as follows: Oakland 1, San Leandro 1, Kings County 1, Redwood City 1, Watsonville 1, Siskiyou County 1.

Measles.

696 cases of measles have been reported, as follows: Berkeley 5, Oakland 25, Piedmont 1, San Leandro 1, Jackson 2, Contra Costa County 2, Concord 5, El Cerrito 1, Pittsburg 1, Richmond 5, El Dorado County 10, Fresno 1, Orland 14, Eureka 1, Los Angeles County 1, Burbank 3, Glendale 1, Los Angeles 5, Sierra Madre 1, Madera County 5, Madera 36, Marin County 2, San Rafael 3, Sausalito 3, Yosemite 9, Monterey County 1, Plumas County 26, Riverside 1, Sacramento 26, San Diego County 1, San Diego 1, San Francisco 227, San Joaquin County 84, Manteca 7, Stockton 132, Burlingame 2, Daly City 14, Santa Barbara County 1, San Jose 2, Santa Cruz 7, Solano County 2, Vacaville 1, Sonoma County 1, Stanislaus County 2, Red Bluff 2, Tulare County 1, Ventura County 1, Santa Paula 1, Yolo County 9, Woodland 1.

Whooping Cough.

359 cases of whooping cough have been reported, as follows: Alameda County 1, Alameda 4, Berkeley 2, Emeryville 1, Oakland 32, Piedmont 7, San Leandro 2, Concord 3, Fresno County 7, Calipatria 5, Los Angeles County 10, Arcadia 1, Beverly Hills 5, Compton 2, Culver City 4, Glendale 7, Inglewood 2, Long Beach 16, Los Angeles 53, Montebello 1, Pasadena 11, Pomona 4, San Marino 1, Santa Monica 4, Sierra Madre 1, Whittier 5, Southgate 1, Maywood 1, Bell 3, Mill Valley 3, Sausalito 1, Orange County 3, Anaheim 6, Brea 1,

Fullerton 1, Orange 2, Santa Ana 8, Tustin 6, Riverside County 4, Riverside 3, Sacramento 1, San Bernardino County 2, Upland 2, San Diego County 13, Chula Vista 10, San Diego 31, San Francisco 12, San Joaquin County 3, Stockton 5, San Luis Obispo County 7, Paso Robles 2, Palo Alto 4, San Jose 4, Stanislaus County 1, Modesto 3, Tulare County 4, Tuolumne County 2, Sonoma 4, Ventura County 14, Fillmore 1.

Meningitis (Epidemic).

10 cases of epidemic meningitis have been reported, as follows: Alameda County 1, Contra Costa County 3, Los Angeles County 1, Los Angeles 1, Bell 1, San Francisco 3.

Leprosy.

Two cases of leprosy have been reported, as follows: Long Beach 1, Monterey County 1.

Poliomyelitis.

Two cases of poliomyelitis have been reported, as follows: Long Beach 1, San Bernardino 1.

Coccidioidal Granuloma.

Two cases of coccidioidal granuloma from Yolo County have been reported.

Encephalitis (Epidemic).

One case of epidemic encephalitis from Monterey County has been reported.

Food Poisoning.

13 cases of food poisoning have been reported, as follows: Plumas County 8, San Francisco 5.

Septic Sore Throat.

One case of septic sore throat from Fresno County has been reported.

COMMUNICABLE DISEASE REPORTS

Disease	1932				1931			
	Week ending			Reports for week ending May 7 received by May 10	Week ending			Reports for week ending May 9 received by May 12
	April 16	April 23	April 30		April 18	April 25	May 2	
Actinomycesis	1	1	0	0	0	0	0	0
Chickenpox	998	938	729	824	631	511	574	401
Coccidioidal Granuloma	1	1	0	2	0	0	0	0
Diphtheria	94	85	83	67	52	60	76	88
Dysentery (Amoebic)	3	3	3	5	0	2	1	0
Dysentery (Bacillary)	4	1	3	0	0	4	7	4
Encephalitis (Epidemic)	1	1	2	1	0	1	2	1
Erysipelas	31	22	26	20	25	18	44	17
Food Poisoning	3	5	4	13	14	11	0	0
German Measles	31	10	13	13	33	49	18	18
Gonococcus Infection	133	169	145	140	134	105	151	121
Hookworm	1	0	0	0	0	0	0	0
Influenza	89	65	75	65	78	277	109	55
Jaundice (Epidemic)	0	3	1	0	0	2	0	1
Leprosy	1	0	0	2	2	1	0	0
Malaria	0	2	1	0	2	0	0	0
Measles	653	634	614	696	1,492	1,579	1,417	1,309
Meningitis (Epidemic)	0	3	5	10	4	7	11	6
Mumps	303	206	193	192	347	359	296	295
Ophthalmia Neonatorum	2	0	0	0	1	0	0	0
Paratyphoid Fever	0	2	3	0	0	0	0	0
Pellagra	1	0	1	0	2	2	3	1
Pneumonia (Lobar)	50	43	41	48	57	34	107	54
Poliomyelitis	3	4	2	2	5	6	4	1
Psittacosis	1	0	0	0	0	0	0	0
Rabies (Animal)	14	11	9	8	16	17	23	14
Relapsing Fever	0	0	1	0	0	0	0	0
Scarlet Fever	169	189	165	162	173	164	163	147
Septic Sore Throat	1	0	2	1	10	9	2	4
Smallpox	22	16	5	21	54	55	45	28
Syphilis	173	218	210	189	184	149	217	187
Tetanus	2	3	1	0	4	0	0	0
Trachoma	7	8	3	2	0	1	7	4
Trichinosis	0	0	1	0	1	0	0	0
Tuberculosis	226	237	315	193	251	202	258	186
Typhoid Fever	10	13	5	6	11	11	18	8
Undulant Fever	4	2	1	0	0	2	0	0
Whooping Cough	405	469	374	359	401	406	328	304
Totals	3,437	3,364	3,036	3,041	3,984	4,044	3,881	3,254

Most reportable diseases show decreases in their prevalence.

Chickenpox and measles are two exceptions.

Food poisoning cases are reported.

Smallpox shows a slight elevation for last week.